UNITED STATES PATENT AND TRADEMARK OFFICE

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STRAUB & POKOTYLO
620 TINTON AVENUE
BLDG. B, 2ND FLOOR
TINTON FALLS, NJ 07724

EXAMINER
TON, ANTHONY T

ART UNIT	PAPER NUMBER
2661	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)	
	09/865,050	KOMPELLA, KIREETI	
Office Action Summary	Examiner	Art Unit	
	Anthony T Ton	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>24 May 2001</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is

    closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-48</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) <u>13-31</u> is/are allowed.

6)☒ Claim(s) <u>1-12,32-35 and 37-48</u> is/are rejected.

7)☒ Claim(s) <u>36</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>20 September 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage

       application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

PHIRIN SAM
PRIMARY EXAMINER

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date <u>8/27/02</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

Claim Objections

1.   **Claims 6, 7** and **25** are objected to because of the following informalities:

a) **In claims 6 and 7**: term "to **determined**" in line 2 is improper. This must be

typographic.

Examiner suggests changing this term to "to **determine**".

b) **In claim 25**: abbreviations "(A) RSVP-TE", "(B) LDP", and "(CR-LDP)" in line 2

are improper.

Examiner suggests that these abbreviations should be completely spelled out at least once

for such claimed limitations.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3.   **Claims 1, 2, 4-12, 32, 34, 37, 38, 47** and **48** are rejected under 35 U.S.C. 102(e) as being

anticipated by *Miki et al.* (US Patent No. 6,771,662) hereinafter referred to as *Miki*.

a) **In Regarding to Claim 1**: *Miki* disclosed a method for processing ingress data by an

edge device of a transport network *(see Fig.13)*, the method comprising:

determining a first label and a second label based on layer 2 destination information of

the ingress data *(see Fig.14 : Output L2 Identifier OUT13 (1ˢᵗ label), Output Port No. OUT12*

(2ⁿᵈ label), and Input L2 Identifier IN12 (based on layer 2 destination information of the ingress

data));

adding the first and second labels to the data to generate modified data *(see col.11 line 62*

– col.12 line 4; and col.17 lines 21-32: a first label and a second label); and

using the first label to forward the modified data towards an egress edge device of the

transport network *(see Figs.13 and 14: Label L21; wherein, the Edge Node E21 using the Label*

L21 to forward the modified data toward the Edge Node E22).

wherein the second label is to be used by the egress edge device to associate the

ingress data with a destination device and a channel *((see Fig.14: #24 (a channel) in the*

OUT12); wherein the #24 is going to used by the egress edge device E22 as an input information

that associates with the ingress data with the destination device Host IP22 as shown in Fig.13).

b) **In Regarding to Claim 2**: *Miki* further disclosed the method further comprising:

removing the destination information of the ingress data *(see col.12 lines 21-31: removes*

the internal header H6 from the reception packet).

c) **In Regarding to Claim 4**: *Miki* further disclosed the destination information of the

ingress data is represented by a logical identifier *(see col.14 lines 43-61: VPI/VCI)*.

d) **In Regarding to Claim 5**: *Miki* further disclosed the logical identifier is associated

with a unique virtual private network *(see col.5 lines 15-29: construction of a virtual private*

network VPN are facilitated; and col.15 lines 63-67: VPN-A).

e) **In Regarding to Claim 6**: *Miki* further disclosed the logical identifier and the virtual

private network are used to determined the egress edge device associated with the first label *(see*

Figs.13: VCI v21 and VPN-A are used to determined the egress edge device (E22) associated

with the first label (Label L21)).

f) **In Regarding to Claim 7**: *Miki* further disclosed the logical identifier and the virtual

private network are used to determined the destination device and channel associated with the

second label *(see col.16 lines 31-42: VCIv22, VPN-A and destination device IP22; and see*

Fig.14: channel (#24) associated with the second label (OUT12)).

g) **In Regarding to Claim 8**: *Miki* further disclosed the second label and the

advertisement of the egress edge device are used to determine the channel to the destination

device *(see Figs.13 and 14: wherein, the #24 and the new (advertised) edge node E22 would be*

used to determine the destination device Host IP22).

h) **In Regarding to Claim 9**: *Miki* disclosed a method for processing egress data, having

a first label and a second label *(see Fig.2: Output L2 Identifier OUT13 (1ˢᵗ label), Output Port*

No. OUT12 (2ⁿᵈ label), by an edge device of a transport network *(see Fig.1: Edge Node E11)*, the

method comprising:

determining a channel to a destination customer edge device based on the second label

(see Fig.2: #11 in the OUT12); and

forwarding the egress data on the channel determined *(see Fig.1: IP13, E11, #11 and*

IP11. To which, a packet sent from the IP13 received by the E11 would be forwarded to the IP11

via the #11).

i) **In Regarding to Claim 10**: *Miki* further disclosed the second label was derived from

an identifier of the destination customer edge device *(see Fig.14: Destination IP Address IN13)*,

and a label base of a source customer edge device *(see Fig.14: Input L2 Identifier IN12, and*

Fig.13: Host IP21 (a source customer edge device)).

j) **In Regarding to Claim 11**: *Miki* further disclosed the second label was mapped from

a channel identifier for the destination customer edge device used by the source customer edge

device *(see col.16 line 61 – col.17 line 4: searching (mapping) the routing information table by*

using the combination of the input port number (channel identifier), input L2 identifier, and

destination IP address as searching conditions).

k) **In Regarding to Claim 12**: *Miki* further disclosed the channel identifiers for the

destination customer devices used by the source customer edge device and the destination

customer edge device may be different *(see Fig.14: Input Port No. IN11 (channel Ids for*

destination customer devices used by the source customer) and Output Port No. OUT12 are

different from one another).

l) **In Regarding to Claim 32**: *Miki* disclosed a device for use at the edge of a layer 2

transport network *(see Fig.3)*, the device comprising:

a storage facility *(see Fig.3: 13-1 to 13-n; and col.11 lines 38-47)* for storing

i) a first route mapping a channel identifier corresponding to a destination

customer edge device to a first label for forwarding data to a proper egress service

provider edge device and a second label for forwarding data from the proper

egress service provider edge device to the destination customer edge device *(see*

Figs.1 and 2: RT11 (first route), #13 (channel Id), IP13 (a destination customer

edge device), OUTPUT L2 Identifier OUT13 (first label), E12 (a proper egress

service provider edge device), OUTPUT Port No. OUT12 (second label)), and

ii) a second route mapping an ingress second label to a channel identifier

associated with a destination customer edge device *(Figs. 1 and 2: RT13 (a second*

route) mapping an ingress second label IN11 #11 to a channel identifier OUT12

#12 with a destination customer edge device IP12); and

a forwarding facility *(see Fig.3: 14-1 to 14-n; and col.11 lines 48-58)* for

i) forwarding ingress data to an egress service provider edge device based on the

first route *(see Fig.1: E11 and E12, RT11)*, and

ii) forwarding egress data to a destination customer edge device based on the

second route *(see Fig.1: IP12 and RT13)*.

m) **In Regarding to Claim 34:** *Miki* further disclosed the device further comprising:

a signaling facility for signaling information about a newly added customer edge device

coupled with the device, to other devices at the edge of the layer 2 transport network *(see Fig.10*

and col.14 line14 –col.15 line 9).

n) **In Regarding to Claim 37:** *Miki* disclosed a layer 2 transport network for use by a

source customer edge device and a destination customer edge device *(see Fig.13: MPLS, Host*

IP21 and Host IP22), both belonging to a same virtual private network *(see Fig.13: VPN-A)*, the

source customer edge device having a list of channel identifiers for each customer edge device of

the virtual private network *(see Fig.14: VCI v21-VCI v23 in Input L2 Identifier of Input*

Information), the layer 2 network comprising:

a first transport network edge device, the first transport network edge device coupled with the source customer edge device *(see Fig.1: E11 and Host IP11)* and having

   i) a storage facility *(see Fig.3: 13-1 to 13-n; and col.11 lines 38-47)* for storing a first route mapping a first channel identifier, used by the source customer edge device and corresponding to the destination customer edge device, to a first label for forwarding data to a second transport network edge device and a second label associated with the destination customer edge device *(see Figs.1 and 2: RT11 (first route), #11 (channel Id), IP11 (a source customer edge device), destination IP address IP13 (corresponding to the destination customer device), OUTPUT L2 Identifier OUT13 (first label), E12 (a second transport network edge device), OUTPUT Port No. OUT12 (second label associated with the destination customer edge device Host IP13)),* and

   ii) a forwarding facility for forwarding data addressed to the destination customer edge device to the second transport network edge device based on the first label of the first route *(see Fig.3: 14-1 to 14-n; and col.11 lines 48-58)*; and

the second transport network edge device, the second transport network edge device coupled with the destination edge device *(see Fig.1: E12 and Host IP13)* and having

   i) a storage facility *(see Fig.3: 14-1 to 14-n; and col.11 lines 48-58)* for storing a second route mapping the second label to a second channel identifier associated with the destination customer edge device *(see Fig.1 and 2: the contents on the row of RT14 (second route), OUTPUT Port No. OUT12 (the second label) and #14 (a second channel Id)),* and

ii) a forwarding facility for forwarding the data to the destination customer edge

device based on the second channel identifier of the second route *(see Fig.3: 14-1 to 14-*

n; and col.11 lines 48-58).

o) **In Regarding to Claim 38**: *Miki* further disclosed each of the first channel identifier

and the second channel identifier is associated with the destination customer edge device *(see*

Figs.1 and 2: each of RT11 and RT14 is associated with the destination customer device Host

IP13), and

wherein the first channel identifier may be different from the second channel identifier

(see Fig.2: #11 and #14 are different).

p) **In Regarding to Claims 47** and **48**: all of the claimed subject matters of these claims

have been disclosed in the claims 32, 34, 37 and 38 and by *Miki* as described above. Therefore,

the rejections to claims 32, 34, 37 and 38 and would also apply to reject these claims 47 and 48,

in a device for use at the edge of a layer 2 transport network as taught.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

5.   **Claims 3** and **33** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Miki et*

al. (US Patent No. 6,771,662) in view of *Baum et al.* (US Patent No. 6,771,673) hereinafter

referred to as *Baum*.

a) **In Regarding to Claim 3**: *Miki* disclosed all aspects of this claim as set forth in claim

1.

Miki failed to explicitly disclose encapsulating the modified data.

Baum explicitly disclosed such encapsulating the modified data *(see Fig.27A: step 2730)*.

At the time of the invention, it would be obvious to a person of ordinary skill in the art to

combine such encapsulating the modified data, as taught by *Baum* with *Miki*, in order to transmit

a data packet of a customer from the Layer 3 in the OSI through a Layer 2 MPLS network. The

motivation for doing so would have been to provide a preservation for layer 2 address

information or header in a communications network *(see Baum: col.10 lines 24-26)*. Therefore,

it would have been obvious to combine *Baum* with *Miki* in the invention as specified in the

claim.

b) **In Regarding to Claim 33**: *Miki* disclosed all aspects of this claim as set forth in

claim 32.

Miki failed to explicitly disclose a configuration facility for determining the first and

second routes stored in the storage facility based on received advertisements about newly added

customer edge devices.

Baum explicitly disclosed such received advertisements about newly added customer

edge devices *(see col.20 lines 18-29)*.

At the time of the invention, it would be obvious to a person of ordinary skill in the art to

combine such received advertisements about newly added customer edge devices, as taught by

Baum with *Miki*, so that the address and information relating to a new customer can be learnt by

edge nodes in a MPLS network. The motivation for doing so would have been to provide up-to-

date routing information in a network router for proper communications *(see Baum: col.20 lines 28-29)*. Therefore, it would have been obvious to combine *Baum* with *Miki* in the invention as specified in the claim.

6.   **Claims 35** and **39-46** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Miki et al.* (US Patent No. 6,771,662) in view of *Baum et al.* (US Patent No. 6,771,673) as applied to claims 1-12, 32-34, 37 and 38 above, and further in view of *Casey et al.* (US Patent No. 6,205,488) hereinafter referred to as *Casey*.

      a) **In Regarding to Claim 35**: *Miki* disclosed all aspects of these claims as set forth in claims 32 and 34; and

      Miki further disclosed a first value identifying the device *(see Fig.14: Input L2 Identifier (hence the field value))*;

      a second value identifying a virtual private network *(see Fig.14: VPN-A (hence a second value))*;

      Miki failed to explicitly disclose a fourth value identifying a range associate with a new newly added customer edge device; and

      a fifth value identifying a label base associated with the newly added customer edge device.

      Baum explicitly disclosed such a fourth value identifying a range associate with a new newly added customer edge device *(see col.20 lines 18-29)*.

      At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such a fourth value identifying a range associate with a new newly added customer

edge device, as taught by *Baum* with *Miki*, so that the address and information relating to a new customer can be learnt by edge nodes in a MPLS network. The motivation for doing so would have been to provide up-to-date routing information in a network router for proper communications *(see Baum: col.20 lines 28-29)*. Therefore, it would have been obvious to combine *Baum* with *Miki* in the invention as specified in the claim; and

Casey explicitly disclosed such a fifth value identifying a label base associated with the newly added customer edge device *(see Fig.3: block 50)*.

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such a fifth value identifying a label base associated with the newly added customer edge device, as taught by *Casey* with *Miki*, so that the location and information relating to a new customer can be learnt by edge nodes in a MPLS network. The motivation for doing so would have been to provide a first hop of a base network, where it can be uses for a reference of a continuous set of labels *(see Casey: col.4 lines 58-67)*. Therefore, it would have been obvious to combine *Casey* with *Miki* in the invention as specified in the claim.

b) **In Regarding to Claims 39-46**: *Miki* and *Baum* disclosed all aspects of these claims as set forth in claims 1-12, 32-34, 37 and 38 above; and

Baum further disclosed a machine-readable medium as set forth in claims 22-24.

Both *Miki* and *Baum* failed to explicitly disclose a first field for storing a label base and a fifth field identifying a label base associated with a given customer edge device.

Casey explicitly disclosed such a first field for storing a label base and a fifth field identifying a label base associated with a given customer edge device *(see Fig.3: block 50)*.

At the time of the invention, it would be obvious to a person of ordinary skill in the art to combine such a first field for storing a label base and a fifth field identifying a label base associated with a given customer edge device, as taught by *Casey* with *Miki*, so that the location and information relating to a new customer can be learnt by edge nodes in a MPLS network. The motivation for doing so would have been to provide a first hop of a base network, where it can be uses for a reference of a continuous set of labels *(see Casey: col.4 lines 58-67)*. Therefore, it would have been obvious to combine *Casey* with *Miki* in the invention as specified in the claims.

Allowable Subject Matter

7.   **Claims 13-31** are allowed.

8.   **Claim 36** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Examiner Information

9.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Anthony T Ton** whose telephone number is **571-272-3076**. The examiner can normally be reached on M-F: 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Ken Vanderpuye** can be reached on **571-272-3078**. The fax phone number for the organization where this application or proceeding is assigned is **703-872-9306**.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Respectfully submitted,

by :

Anthony T. Ton
Patent Examiner
November 24, 2004

PHIRIN SAM
PRIMARY EXAMINER